

Glenn Research Center, Environmental Programs Manual

Chapter 18 - FLOODPLAIN AND WETLANDS MANAGEMENT

NOTE: The current version of this Chapter is maintained and approved by the Environmental Management Office (EMO). The revision date for this chapter is September 2003. If you are referencing paper copies, please verify that it is the most current version before use. The current version is maintained on the Glenn Research Center intranet at . Approved by: EMO Chief, Michael Blotzer {<mailto:Michael.J.Blotzer@nasa.gov>}.

PURPOSE

This chapter establishes policies and procedures for dealing with GRC projects and programs that could impact floodplains or wetlands.

This chapter conforms to the GRC EMS as defined in Environmental Programs Manual Chapter 1.

This chapter supports GRC Environmental Policy, which promotes pollution prevention, regulatory compliance, and continuous improvement.

Following the guidelines in this chapter will help achieve some of the GRC environmental objectives and targets identified, such as compliance with environmental requirements. Achievement of these targets can be tracked through the following record(s) Emergency Incident Reports, P2 Committee & Plan Results, and number of regulatory non-compliances found.

APPLICABILITY

This chapter is applicable to all GRC actions that may have an impact on wetlands or floodplains. It is applicable to GRC employees and contractors at all levels who in any way participate in the formulation, development, and execution of qualifying NASA actions.

DEFINITIONS

Action

Activity including, but not limited to, the acquisition, construction, modification, change in land use, issuance of facilities use permits, and disposition of Federal lands and facilities.

Floodplain

The lowland and relatively flat areas adjoining inland and coastal waters, including the flood-prone areas of offshore islands and including, at a minimum, that area subject to a 1 percent or greater chance of flooding in any given year. The base floodplain shall be used to designate the 100-year floodplain (1 percent chance floodplain). The critical action floodplain is defined as the 500-year floodplain (0.2 percent chance floodplain). A large portion of GRC floodplains also encompass wetlands.

Wetlands

Those areas that are frequently inundated by surface or ground water and normally support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, river overflows, wet meadow, and natural ponds.

BACKGROUND

In the 1600's, over 220 million acres of wetlands are thought to have existed in the lower 48 states. Since then, extensive losses have occurred, and over half of our original wetlands have been drained and converted to other uses. The years from the mid-1950's to the mid- 1970's were a time of major wetland loss, but since then the rate of loss has decreased.

In addition to these losses, many other wetlands have suffered degradation of functions, although calculating the magnitude of the degradation is difficult. These losses, as well as degradation, have greatly diminished our nation's wetlands resources; as a result, we no longer have the benefits they provided. The increase in flood damages, drought damages, and the declining bird populations are, in part, the result of wetlands degradation and destruction.

POLICY

It is GRC policy to restore, preserve, and protect the natural and beneficial values provided by floodplains and wetlands. In carrying out this policy, GRC will avoid adverse impacts associated with the occupancy and modification of floodplains and wetlands.

- Avoid direct or indirect support of floodplains and wetlands development wherever there is a practicable alternative.
- Reduce the risk of flood loss and minimize the impact of floods on human health, safety, and welfare.
- Develop an integrated process to involve the public in the floodplain and wetlands management decision-making process.
- Incorporate into the GRC Master Facilities Plan the requirements of the Unified National Program for Floodplain Management.
- Establish internal management controls to monitor NASA actions to assure compliance with the Executive Orders.

REQUIREMENTS

The primary mechanism through which the Federal government protects wetlands is Section 404 of the 1972 Clean Water Act. Section 404 has an established legal history of broad interpretation that requires that any actions that disturb or eliminate wetlands be approved by the Army Corps of Engineers. In conjunction with this law is a related set of laws governing the management of floodplains. These laws include the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. Authority for floodplain management is included in Executive Orders 11988 and 11990. These Orders require that each Agency evaluate the potential effects of its actions on floodplains. Agencies should not undertake actions that directly or indirectly induce growth in the floodplain unless there is no practical alternative. Agency regulations and operating procedures for licenses and permits should include provisions for the evaluation and consideration of flood hazards.

PROCEDURES

A generalized flowchart of wetland and floodplain actions review process at Glenn is portrayed in Flowchart 1.

Environmental Compliance Team (ECT)

- Maintains an inventory of all known GRC floodplain and wetlands maps
- Validates the need for permit applications
- Reviews all floodplain and wetlands permit applications
- Maintains copies of all existing floodplain and wetlands permits
- Coordinates with technical management of Facilities Division for inclusion of wetlands and floodplains inventories into the Master Facilities Plan.

Facilities Division (FD)

- Review all proposed projects to identify activities in floodplain and wetlands
- Coordinate with ECT for floodplain or wetlands permits applications

Directorates Initiating Projects

- Coordinate proposed actions affecting floodplains and wetlands with ECT and the External Affairs Office.

Project Engineers

- Prepare permit applications and submit them to ECT for review.

RELATED PROGRAMS

Floodplain and wetlands actions are addressed in the chapter on the National Environmental Policy Act (see [Chapter 2](#) of this manual). Also, the Ohio Coastal Zone Management (CZM) Plan has regulatory impact on Plum Brook Station's water intake structures.

RESOURCES

Copies of the floodplain and wetlands maps for GRC are maintained by the ECT. Wetlands at Lewis Field and PBS have not been officially delineated. Reference can be made to the *Final Protected Species Management Strategy For NASA Glenn Research Center At Lewis Field And Plum Brook Station, Volume II: Plant Community Survey* (SAIC 2002) for the probable locations of wetlands at GRC.

RECORDS

The following records are maintained by the ECT:

- Floodplain and Wetland Maps
- Permit Applications

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**FLOWCHART 1
WETLAND AND FLOODPLAIN ACTIONS REVIEW PROCESS**

